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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/754,572	01/12/2004	Mun-Pyo Hong	6192.0158D1	8242
7590	11/28/2005		EXAMINER	
McGuireWoods LLP Suite 1800 1750 Tysons Blvd. McLean, VA 22102			FENTY, JESSE A	
			ART UNIT	PAPER NUMBER
			2815	

DATE MAILED: 11/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H:A

**Office Action Summary**

Application No.

10/754,572

Applicant(s)

HONG ET AL.

Examiner

Jesse A. Fenty

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 August 2005.  
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 10-15 and 45-54 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☒ Claim(s) 45-50 is/are allowed.  
 6) ☒ Claim(s) 10, 11, 13-15, 51, 53 and 54 is/are rejected.  
 7) ☒ Claim(s) 12 and 52 is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☐ All b) ☐ Some \* c) ☐ None of:  
 1. ☐ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 4) ☐ Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 5) ☐ Notice of Informal Patent Application (PTO-152)  
 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 10, 11, 13, 15, 51, 52 and 54 are rejected under 35 U.S.C. 102(e) as being anticipated by Jeong et al. (U.S. Patent No. 6,081,308)

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

In re claim 10, Jeong (esp. Fig. 11) discloses a contact structure of a wire, comprising:

a wire (22) of a conductive material on a substrate;

an inter-layer reaction layer (24) formed on the wire and including at least silicon;  
and

a conductive layer (36a) electrically connected to the wire via the inter-reaction layer.

In re claim 11, Jeong discloses the device of claim 10, wherein the wire is made of a conductive material including an aluminum-based material (column 5, lines 63-64).

In re claim 13, Jeong discloses the device of claim 10, wherein the inter-layer reaction layer is an inter-metallic compound layer.

In re claim 15, Jeong discloses the device of claim 10, further comprising an insulating layer (26) having a contact hole exposing the inter-layer reaction layer between the wire and the conductive layer.

In re claim 51, Jeong (esp. Fig. 11) discloses a wiring contact structure, comprising:

a first wire (22) formed of a conductive material; and

a second wire (36a) formed on and in contact with the first wire, the second wire comprising:

a first conductive layer (36a) formed of a conductive material; and

a second conductive layer (24) sandwiched between the first wire and the first conductive layer and containing a transition metal,

wherein the first conductive layer is electrically connected to the first wire via the second conductive layer.

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In re claim 52, Jeong discloses the device of claim 51, wherein the first wire contains aluminum.

In re claim 54, Jeong discloses the device of claim 51, wherein the first conductive layer is formed of a transparent conductive material (ITO).

3. Claims 10, 11, 13, 14, 15, 51, 52 and 54 are rejected under 35 U.S.C. 102(e) as being anticipated by Colgan et al. (U.S. Patent No. 6,278,502 B1).

In re claims 10 and 51, Colgan (esp. Fig. 17) discloses a contact structure of a wire, comprising:

a wire (126) of a conductive material on a substrate;

an inter-layer reaction layer (129) formed on the wire and including at least a transition metal (molybdenum); and

a conductive layer (131) electrically connected to the wire via the inter-reaction layer.

In re claims 11 and 52, Colgan discloses the devices of claims 10 and 51 respectively, wherein the wire is made of a conductive material including aluminum.

In re claim 13, Colgan discloses the device of claim 10, wherein the inter-layer reaction layer is an inter-metallic compound layer.

In re claims 14 and 54, Colgan discloses the devices of claims 10 and 51 respectively, wherein the conductive layer is made of indium zinc oxide.

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In re claim 15, Colgan discloses the device of claim 10, further comprising an insulating layer (128) having a contact hole exposing the inter-layer reaction layer between the wire and the conductive layer.

***Allowable Subject Matter***

4. Claims 45-50 are allowed.
5. Claims 12 and 53 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

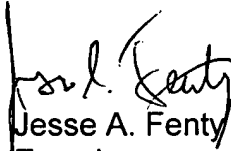
***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jesse A. Fenty whose telephone number is 571-272-1729. The examiner can normally be reached on 5/4-9 1st Fri. Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ken Parker can be reached on 571-272-2298. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jesse A. Fenty  
Examiner  
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